DOCUMENT RESUME

ED 220 503 TM 820 516

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TITLE	Local Basic Skills Review: The Aligned Curriculum & Instructional Time.
INSTITUTION	Newark Board of Education, NJ. Office of Research, Evaluation and Testing.
REPORT NO	ORET-4
PUB DATE	Jan 82
NOTE	57p.
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	Academic Achievement; *Administrator Attitudes; *Basic Skills; Elementary Education; Mathematics Achievement; Minimum Competency Testing; *Parent Attitudes; Participant Satisfaction; *Program Evaluation; Reading Achievement; *Teacher Attitudes; Time Factors (Learning)
IDENTIFIERS	*Newark School System NJ

ABSTRACT

Parents, teachers and administrators examined the Basic Skills Program in the Newark School District. The study was designed: (1) to determine the relative satisfaction with components of the reading and math aligned curricula and instructional time, (2) to determine the relationship between satisfaction with these variables and achievement, and (3) to generate recommendations and plans for program improvement. Data from 45 elementary schools were analyzed. Satisfaction ratios indicated that instructional time was the least satisfactory of the variables at both high- and low-achieving schools. Results of a discriminant analysis showed that there is a significant difference between high- and low-achieving schools in their perception of reading assessment (including diagnosis and prescription). High-achieving schools were significantly more satisfied with assessment in their reading program than were low-achieving schools. None of the variables successfully differentiated between high- and low-achieving schools in math. Recommendations for program improvement were derived from statistical analyses of school-aggregated satisfaction ratings and from individual school program review team recommendations. (Author/BW)

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LOCAL BASIC SKILLS REVIEW: THE ALIGNED CURRICULUM & INSTRUCTIONAL TIME

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JANUARY 1982

LOCAL BASIC SKILLS REVIEW: THE ALIGNED CURRICULUM AND INSTRUCTIONAL TIME

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January 1982

TABLE OF CONTENTS

	Page
Abstract	i.
Acknowledgments	ii.
Introduction	1.
Method	5.
Results	12.
Discussion	27.
Appendix (Literature Review and Description of Variables)	35.
References	46.

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Acknowledgments

This large-scale cooperative venture of reviewing the Newark School District's Basic Skills Program was made possible through the efforts and support of over a thousand people. We are grateful to each one of them.

Our deepest appreciation is extended to:

Alonzo Kittrels, former Executive Superintendent, for conceiving of and supporting this project.

Juan Rosario, Assistant Executive Superintendent, for his active involvement in transforming the idea into reality.

Ram Durga, Director/Office of Research, Evaluation and Testing, for allocating time, money and staff for this project.

Serge Madhere, for his invaluable assistance in planning and executing the data analysis.

Robert Brown, Morris Lerner and Vivian Lampkin, for refining our materials and procedures, and enlisting the cooperation of principals.

Principals of each of the fifty-six (56) schools for their leadership, time, organizational skill and ingenuity in coordinating and implementing this complex project.

Parents, teachers and administrators and members of the community for painstakingly conducting the review.

Students, teachers, administrators and members of the community for serving as valuable information sources.

Jacqueline Henry, Peggy Williams and Terry Spann for their attentive and careful secretarial work.

Dorothy Gawenus, for providing us with achievement test data for the district.

Title 1 parents for coding the data with precision.

Data Processing, for their cooperation in running the computer programs.

Student interns, for organizing the hundreds of recommendations.

INTRODUCTION

The Local Basic Skills Review is part of an on-going, comprehensive process of evaluating and improving basic skills instruction in Newark. It is an outgrowth of the 1975 Public Education Act which established a planning process to provide "thorough and efficient" education for all New Jersey students. In this act, the priority of attention is directed towards achievement in basic communication and computational skills. Schools which have serious deficiencies in these areas (as determined by scores on the state Minimum Basic Skills (MBS) test)are classified as "unapproved"; those which have minor deficiencies are "approved with conditions," and those which do not have deficiencies are classified as "approved." A "Comprehensive Review Team," appointed by the state, conducts examinations of and makes recommendations for schools with serious problems. This process is known as the Comprehensive Basic Skills Review (CBSR). For schools with less severe difficulty, the state mandates complete or partial Local Basic Skills Reviews (LBSR).

During the 1980-81 school year, eleven (11) schools in the Newark district were involved in Comprehensive Basic Skills Reviews. All other Newark schools, with the exception of six, were to conduct partial or complete local reviews. Alonzo Kittrels, former Executive Superintendent, decided to have all schools not involved in CBSR participate in a complete local review of the basic skills program. This procedure is intended to provide the basis for formulating a district-wide plan for basic skills instruction.

In addition, the local review process is intended as a method of self examination. It provides an opportunity for teams of individuals associated with each school to evaluate six components of their school's basic skills program. These components are:

1. Policies and School Management Practices
2. Staff Knowledge, Attitudes and Expectations
3. Basic Skills Program: Reading
4. Basic Skills Program: Mathematics
5. Instructional Time
6. Parent and Community Relations

Each component has a set of subcomponents as specified in Table 1.

A cooperative review procedure was designed in order to reduce the amount of bias in evaluating the basic skills program and to receive input from a broad base of individuals concerned with the program. Each review team (subcommittee) was comprised of at least three (3) people: a parent, a teacher and an administrator. There was one review team for each of the six (6) components of the program (listed above) at each school. Thus, the design called for a minimum of 18 people per school. Fifty-six schools participated in the present study, thus yielding at least 1,008 parents, teachers and administrators expected to conduct the local review.

The present report focuses on three (3) of the six (6) components. Transmittal notices received from 41 of the 45 schools included in the data analysis indicated that 416 people served on these review teams. Thus, there was an average of ten people per school for these three (3) components, and 3.3 people per component.

In addition to parents, teachers and administrators collaborating to conduct the local review, the examination process itself was dependent upon the cooperation of a large number and wide range of people in the school system and community. Table 2 contains a list of the 28 categories of people whose involvement, as information sources, was enlisted for the review. To our knowledge, never before in the history of the Newark school district has there been such a large scale cooperative venture between the schools and the community in examining and evaluating an educational program.

Investigation of these components focuses on the degree of satisfaction with various aspects of the basic skills program as perceived by the local review teams. Satisfaction ratings thus provide the basis for fulfilling the third purpose of the local review, namely, to determine how facets of the program are rated throughout the district. Through interviews, observations, and examinations of school records, review teams may discover that some aspects of the program are more satisfactory than others.

In this study, we have identified and examined some variables which are important for the effective functioning of basic skills programs. It is expected that the local review process will result in the specification of which of these variables are operating relatively satisfactorily and which are not. Variables identified as being relatively unsatisfactory can then be investigated further to determine which aspects of these variables are unsatisfactory, and to describe the ways in which they are operating unsatisfactorily. The results of these analyses can be used to make recommendations for program improvement.

The final goal of the local review is to compare perception of the degree of satisfaction with the basic skills program to actual achievement in basic skills. In particular, we are attempting to determine whether, and to what extent, the variables examined account for variation between high and low-achieving elementary schools. However, two major assumptions which underlie the four-stage local review process must be kept in mind.* First, it is assumed that the satisfaction ratings of individual review team members are valid reflections of reviewers' attitudes towards the variables being examined. This assumption is based on the adequacy of the questions on the review instruments,

*In the first stage, each review team member fills out his or her own rating scale for the component being reviewed. In the second stage, members engage in a collective effort to develop composite ratings. Stage three consists of developing recommendations for aspects of the program which composite ratings show to be unsatisfactory. The fourth stage involves translating recommendations into remedial plans.

and the honesty in reporting by review team members and the people interviewed by them. Additionally, it is assumed that the review team consensus formation process results in ratings which constitute a valid summary of individual reviewers' perceptions.

TABLE 1

Components and Subcomponents
of the
Local Review Process

I. Policies and School Management Practices

- A. Basic Skills Policies
- B. Discipline Policies
- C. Staff Development Policies
- D. Decision-Making Policies

II. Staff Knowledge, Attitudes and Expectations

- A. Teacher Knowledge of Instructional Content
- B. Staff Attitudes Toward the Basic Skills Program
- C. Principal's Attitudes Towards His/Her Role
- D. Staff Expectations About Student Learning

III. Basic Skills Program - Reading

- A. Developmental Reading
- B. Compensatory Reading
- C. Management of Developmental and Compensatory Reading Instruction

IV. Basic Skills Program - Mathematics

- A. Developmental Mathematics
- B. Compensatory Mathematics
- C. Management of Developmental and Compensatory Mathematics Instruction

V. Instructional Time

- A. Attendance of Staff and Students
- B. Classroom Instructional Time
- C. Student Engaged Time

VI. Parent and Community Relations

- A. Parent and Community Relations and the Basic Skills Program
- B. Parent and Community Relations and the Non-Instructional Process

METHOD*

Sample

The local review was conducted in each elementary and secondary school in the Newark district which was not mandated by the state to conduct a Comprehensive Basic Skills Program Review. A total of 56 schools, 52 elementary and 4 secondary; participated in the process. This report examines the elementary schools only. A complete set of data was received from 45 of the 52 schools. Only these 45 schools were included in the data analysis.

Materials

Two sets of materials were to be completed: the instruments and the planning forms.

I. The Instruments

The Comprehensive Basic Skills Program Review, Elementary School Guidelines (New Jersey State Department of Education 1980) provided the basis for the construction of six local program review instruments. Thus, there was one evaluation instrument for each component of the basic skills program listed in Table 1. Completing an instrument involved making satisfaction ratings and corresponding recommendations.

Directions:

A. Satisfaction Ratings

Situation described in the question:

If	Circle
completely unsatisfactory (system needs total revision/reorganization).	0
relatively unsatisfactory (system in place, considerable improvement required).	1

*We are grateful to Juan Rosario for his involvement in this phase of the project.

If	Circle
relatively satisfactory (system in place, some improvement required).	2
completely satisfactory (system working effectively, no improvement necessary).	3

B. Recommendations

In rasponse to the question:

If Circled	Procedure
0	Must have specific recommendation(s)
1	Should have specific recommendation(s)
2	May have specific recommendation(s)
3	Not need recommendation(s)

At the end of each component, a section is provided for RECOMMENDATION(S). Each recommendation must be:

1. Specified as:
   a. Short term (18 months or less) or
   b. Long term (more than 18 months)
2. Specific in wording

II. Planning Forms

After completing the review process, recommendations were entered onto the planning form. Each recommendation was translated into a remedial plan with objectives and activities specified in detail.

Procedure - See Figure 1, Flow Chart

1. Principal appoints sub-committee members and coordinators.

The principal appoints a sub-committee (review team) for each of the 6 components of the local review. A sub-committee coordinator is chosen to head each sub-committee. Each sub-committee consists of at least three people including a teacher, parent and administrator. Additional members may come from other school staff and the community.

2. Principal provides inservice for sub-committees.

The principal conducts training workshops for sub-committee members to explain the review process and the materials and procedures to be used.

3. Sub-committees examine information sources.

Sub-committee members obtain information for the local review from the people and materials listed in Tables 2 and 3. From these lists, sub-committee members select the information sources appropriate for the component being reviewed.

4. Complete instrument.

   a. Each sub-committee member fills out his or her own rating scale for the component being reviewed.

   b. The members of each sub-committee jointly discuss their scale ratings and develop a composite rating.

   c. The composite rating is used to develop a set of recommendations.

5. Return instrument to principal.

Sub-committees return the completed instruments and recommendations to the principal.

6. Develop remedial plan.

The principal and sub-committee coordinators meet to discuss recommendations and develop a remedial plan. Sub-committee recommendations are transferred to the planning form and thus provide the basis for the school's individual remedial plan.

Report Design

Results from three of the six components of the local review are used in the data analysis. These components are: Basic Skills Program - Reading, Basic Skills Program - Mathematics, and Instructional Time. Within both basic skills programs, perceptions of three aspects of the aligned

curriculum are examined. They are: expected outcomes, materials/ instruction and assessment. Perception of the quality and quantity of instructional time is examined in relation to the aligned curriculum variables in reading and math, thus, yielding the following design:

(See Appendix for discussion of these variables)

Reading	Math
1. Expected outcomes	1. Expected outcomes
2. Materials/instruction	2. Materials/instruction
3. Assessment	3. Assessment
4. Quality and quantity of instructional time	4. Quality and quantity of instructional time

General Questions

1. Do schools demonstrate differential satisfaction with the four variables examined in regard to the reading program?

2. Do schools demonstrate differential satisfaction with the four variables examined in regard to the math program?

3. Can high and low-achieving schools in reading be differentiated on the basis of the degrees of satisfaction with the expected outcomes, materials/ instruction, assessment, and quality and quantity of instructional time?

4. Can high and low-achieving schools in math be differentiated on the basis of the degrees of satisfaction with expected outcomes, materials/instruction, assessment and quality and quantity of instructional time?

TABLE 2

Information Sources: People

Principal(s)
Guidance Personnel
Aides
Students
Parents
Staff Members (teaching, resource, central)
Nurse
Custodians
Superintendent
Business Manager
Board Members
Board Secretary
District Director of Curriculum
District Director of Elementary and Secondary Education
Administrators (district/local program)
Basic Skills Supervisory Staff
Supervisor/Coordinator (reading/math)
Substitutes
Attendance Officers
Vice Principal
Neighborhood Community
Police
Community Organization Leaders
Informal Community Leaders
PTA Members
Church Leaders
Volunteers
Social Workers

TABLE 3

Information Sources: Materials

Policy Manual
Basic Skills Improvement Plan Budget
Title I/SCE Applications; ASSA Report
Job Descriptions
Organizational Charts
Discipline Referrals
Records - Violence/Vandalism/Suspension/Attendance/Guidance Records
Staff Development Plans
Professional Improvement Plans
Minutes of Committee Meetings
Staff Meetings - Agendas/Minutes
Records of Staff Involvement in Basic Skills, Program Development and Improvement Activities
Sample Communications to Parents (newsletters, flyers)
Student Work
Grading Criteria
Student Record Folders
Curriculum Guides
Lesson Plans
Textbooks
Supplemental Materials
MBS Test Printouts and Results
Individual Teacher Records
Student/Class Schedules
Skills Arrays/Objectives
Basic Skills Supplemental Instruction Plans
Procedures for Substitutes
Assembly and Inservice to Staff
Records of Parent Conferences
Bulletins/Memoranda to Staff

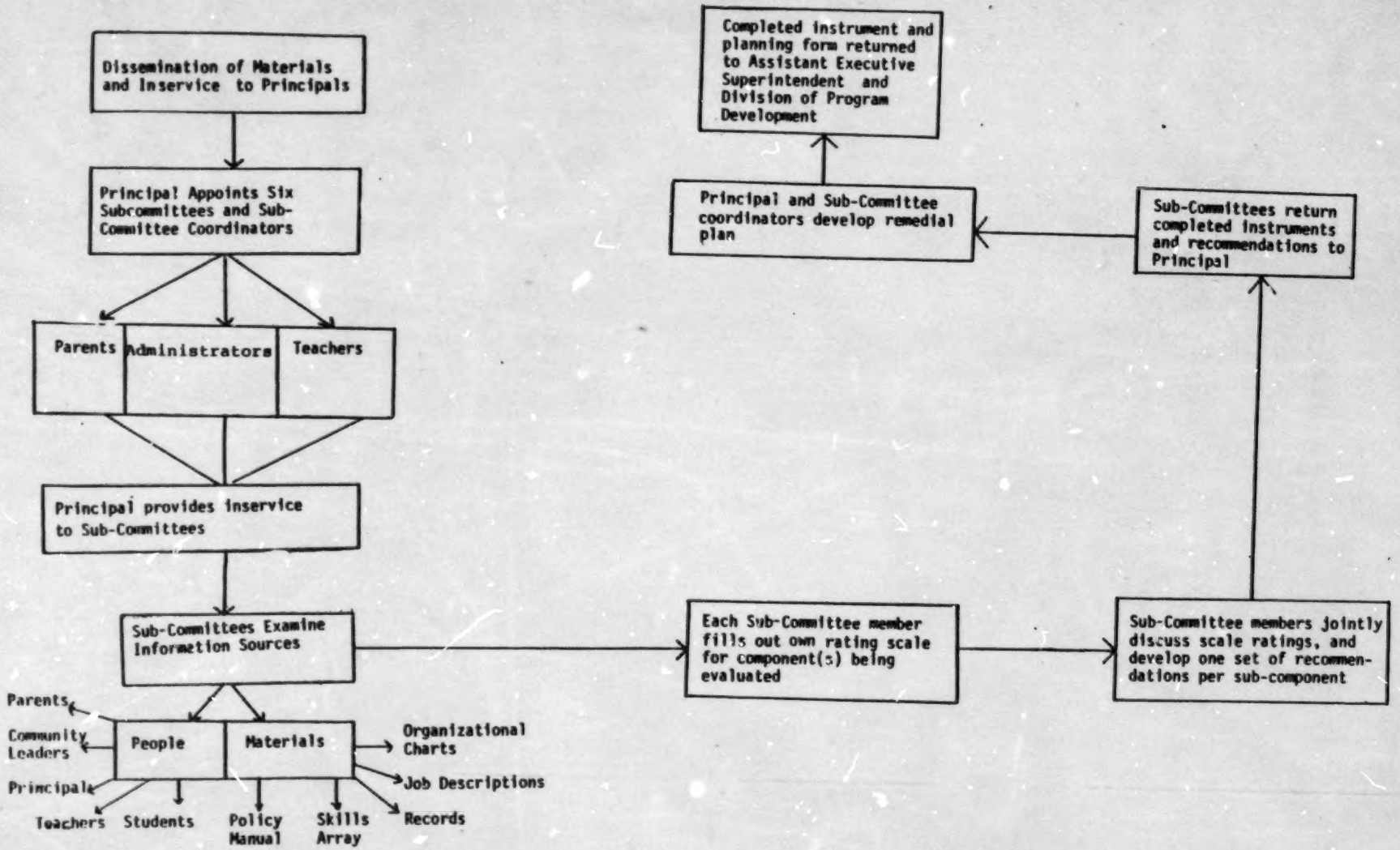
Dissemination of Materials and Inservice to Principals
Principal Appoints Six Subcommittees and Sub-Committee Coordinators
Parents
Administrators
Teachers
Principal provides inservice to Sub-Committees
Sub-Committees Examine Information Sources
Parents
Community Leaders
Principals
Teachers
Students
People
Materials
Policy Manual
Skills Array
Organizational Charts
Job Descriptions
Records
Each Sub-Committee member fills out own rating scale for component(s) being evaluated
Sub-Committee members jointly discuss scale ratings, and develop one set of recommendations per sub-component
Sub-Committees return completed instruments and recommendations to Principal
Principal and Sub-Committee coordinators develop remedial plan
Completed instrument and planning form returned to Assistant Executive Superintendent and Division of Program Development

Fig. 1 Local Review Procedure

RESULTS*

Classification of schools as high versus low-achieving was derived from the report of the Minimum Basic Skills Testing Program (Gawenus, Office of Testing 1981). That report provides information on the percentage of students in each school who in 1981 were above the state standard in reading and math. Data on third and sixth grade students in reading and math are presented independently for each school. For purposes of the present study, third and sixth grade reading data within each school were weighted and combined so that the school could be characterized as high or low in reading achievement across grade levels. The same logic and procedures were applied to math. A median split was performed on the 45 elementary schools included in the data analysis. The results were as follows:

Reading: Median = 65% of the students above the state standard in reading. Using this criterion, there were 23 high-achieving schools and 22 low-achieving schools.

Math: Median = 52% of the students above the state standard in math. Using this criterion, there were 22 high achieving schools and 23 low-achieving schools.

In presenting the results reading and math programs are treated separately. For each program results of the local review are divided into three sections: satisfaction ratings, the relationship between satisfaction and achievement, and recommendations.

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*We are grateful to Serge Madhere for his assistance in analyzing the data.

Preliminary analysis of the results showed that review teams' ratings were skewed towards the higher end of the four-point scale rather than being distributed normally across rating categories. Consequently, "completely unsatisfactory", "relatively unsatisfactory", and "relatively satisfactory" were combined into one category while "completely satisfactory" constituted another category.

It should be noted that results of review teams from different schools are not directly comparable because of variations in the composition of teams for conducting the local review. At some schools, each of the six components was investigated by members who served on one team only, whereas at other schools, people served on more than one review team. Therefore at the former, components of the basic skills program were examined independently of each other, while in the latter case, evaluation of one program component may have been influenced by a review team member's investigation of another component of the program.

Basic Skills Program - Reading

1. Satisfaction Ratings.

Satisfaction ratios were calculated in order to compare the degrees of satisfaction with the four variables being examined. Means were calculated for each variable. Each mean was divided by the maximum satisfaction rating for its respective variable, thereby, resulting in the "satisfaction ratio."

Illustration: reading-expected outcomes

$$\frac{\text{satisfaction rating mean score}}{\text{satisfaction rating maximum score}} = \text{satisfaction ratio}$$

$$\frac{30.78}{40} = .77$$

Reading "satisfaction ratios" are presented in Table 4.

The results indicate that review teams were relatively satisfied with

each of these aspects of the basic skills program. Instructional Time (IT) was the least satisfactory of the variables considered with regard to the reading program. Components of the aligned curriculum, including expected outcomes (EO), materials/instruction (MI) and assessment (AS) consistently were rated more satisfactorily. This pattern of results was characteristic of both high and low-achieving schools. In high-achieving schools, there was essentially equal satisfaction with these three variables. Satisfaction ratios ranged from .78 to .80. In contrast, in low-achieving schools, there was a slightly greater discrepancy. Satisfaction ratios ranged from .68 to .74. Assessment was the least satisfactory aspect of the aligned curriculum in low-achieving schools. Expected outcomes and materials/instruction were rated as equally satisfactory. Indeed, the reading results showed a .81 correlation between EO and MI, which suggests that they are measuring virtually the same thing. To a considerable extent, EO and MI together represent the central structure, planning, coordination and implementation of the basic skills program. While EO addresses the existence of a formal structure and plan for administering the basic skills program, MI entails the way the program in practice is coordinated and administered. (EO and MI both encompass other unrelated features of the basic skills program).

EO, MI and AS are consistently more highly intercorrelated than any combination of these variables and IT. This pattern of results suggests that EO, MI and AS do, in fact, form a single dimension and are perceived as interrelated components of Newark's elementary school's basic skills reading curriculum.

2. Satisfaction and Achievement.

A discriminant analysis was performed in order to determine whether, and the extent to which, high and low-achieving schools could be differentiated on the basis of the variables examined in this study. A stepwise procedure

was adopted for selection of the variables.

Assessment was the only variable which successfully differentiated high from low-achieving schools ($p<.05$). High-achieving schools perceived their basic skills reading assessment procedures to be relatively satisfactory whereas low-achieving schools perceived them to be relatively unsatisfactory. Wilks' lambda for assessment was .9060 showing that while statistically significant, the amount of separation between the groups produced by assessment is not high. The eigenvalue of .1038 indicated that satisfaction with assessment in the reading program accounts for approximately 10% of the variance between high and low-achieving schools. The canonical correlation was .31.

Therefore, the discriminant analysis shows that there is a significant difference between the high and low-achieving schools in their perceptions of assessment in their reading programs. High-achieving schools were significantly more satisfied with reading assessment than were low-achieving schools.

3. Recommendations

Recommendations produced by the local review process were analyzed in two ways. First, recommendation ratios were calculated to indicate the degree to which each variable generated recommendations while controlling for the number of questions pertaining to each variable. As indicated in Table 5, MI produced the most (.30) and AS the least (.19) recommendations concerning the aligned curriculum for reading. Second, recommendations were analyzed and categorized for each variable. Recommendations are summarized in Tables 6,7,8 and 9.

TABLE 4

Satisfaction Ratios

Reading Program

Achievement Level	Variable			
	Expected Outcomes	Materials/ Instruction	Assessment	Quality of Instructional Time
High N=23	.80	.78	.79	.67
Low N=22	.74	.74	.68	.64
Total N=45	.77	.76	.73	.65

TABLE 5

Recommendation Ratios

Reading & Math

	Variable		
Program	Expected Outcomes	Materials/ Instruction	Assessment
Reading	.25	.30	.19
Math	.24	.37	.11

Quality of Instructional Time = .17

TABLE 6

Reading Recommendations: Expected Outcomes*

1. Communication With Parents

   A. Inform about program objectives.
   B. Inform about students' mastery level and progress.
   C. Establish greater cooperation between families and schools.

2. Coordination of Instruction

   A. Assign classroom teacher responsibility for coordinating instructional services.
   B. Strengthen existing system of instructional coordination.
   C. Narrow range of instruction within classroom through homogeneous grouping.
   D. Provide staff development to explain how to coordinate instruction.

3. Programmatic Issues

   A. Develop plan for systematic vocabulary development.
   B. Incorporate NIMS (Newark Instructional Management System) into instructional plan.
   C. Place greater emphasis on phonics approach.

4. Miscellaneous

   A. Improve record keeping system.
   B. Examine school skills array.
   C. Relate NIMS to basal reader.
   D. Budget for more multi-level materials.
   E. Spend more time on on-going program evaluation.

*Based on recommendations from eighteen (18) schools

TABLE 7

Reading Recommendations: Materials/Instruction*

1. Personnel

   A. Provide funds for hiring staff.
   B. Hire reading specialists
      1) Coordinator
      2) Teachers
   C. Hire Bilingual teaching assistant.

2. Coordination of Instruction

   A. Provide time to coordinate (e.g. release time).
   B. Establish system for coordinating (i.e. assign classroom teacher primary responsibility).
   C. Implement system for coordinating instruction.

3. Communication With Parents

   A. Establish system.
   B. Improve existing system.

4. Materials

   A. Purchase specific materials.
   B. Provide greater diversity of materials.
   C. Provide funding for additional (unspecified) materials.

5. Programmatic Issues

   A. Increase instructional time (e.g. reduce pull-out).
   B. Continue existing program (especially NIMS).
   C. Re-evaluate existing reading programs and instructional practices (e.g. pull-out); consider alternatives.
   D. Re-examine scheduling practices.

*Based on recommendations from twenty-two (22) schools

TABLE 8

Reading Recommendations: Assessment*

1. Diagnostic Program

   A. Establish a diagnostic assessment program.
   B. Inform staff, parents and students of diagnostic program.
   C. Increase thoroughness of diagnostic process and procedures.

2. Personnel

   A. Provide personnel for diagnosis.
   B. Provide personnel for instructional planning.

3. Staff Development

   A. Train in remedial reading diagnostic procedures.
   B. Train staff to use assessment results for instructional planning.

4. Measurement Instruments:

   A. Obtain or develop better diagnostic tools.
   B. Provide appropriate materials to evaluate skills of limited English proficiency students.

5. Miscellaneous

   A. Less paper work.
   B. Revise kindergarten skills array for pre-K level.

*Based on recommendations from 11 (eleven) schools

TABLE 9

Recommendations: Instructional Time*

1. Personnel

   A. More aides/volunteers are needed to increase classroom instructional time.

      1) Hire more aides.
      2) Retain existing aides in classes for longer periods of time.

   B. Improve quality of aides by:

      1) Developing better screening procedures.
      2) Instituting better training.

2. Parents

   A. Develop more effective techniques for involving parents in child's homework.
   B. Work with parents of students with limited self control and poor self concept.

3. Negative influences on instructional time

   A. Improve techniques for dealing with classroom disruptions (disturbances and interruptions)

      1) Student
      2) Administrative

   B. Educate students about importance of nutrition.
   C. Make concerted efforts to reduce student mobility.

4. Programmatic Issues

   A. Reduce class size to maximize instructional time for each student.
   B. Schedule classroom time for working on homework.
   C. Motivate students by instit ing rewards for:

      1) Academic progress
      2) Positive behavior patterns

   D. Review, expand and update programs for limited English proficiency students.

*Based on recommendations from eighteen (18) schools

Basic Skills Program - Mathematics

1. Satisfaction Ratings

Review teams' satisfaction ratios for the math skills aligned curriculum variables and instructional time are presented in Table 10. Apparently, review teams were relatively satisfied with each of these aspects of the basic skills program. However, components of the aligned curriculum were viewed as more satisfactory than instructional time. The results were fairly consistent across school achievement levels. The only exception to this pattern of results was that low-achieving schools were slightly more dissatisfied with materials/instruction than high-achieving schools. The satisfaction ratio of the former was .66 while that of the latter was .71.

2. Satisfaction and Achievement

A stepwise discriminant analysis of EO, MI, AS and IT revealed that none of these variables successfully differentiated between high and low-achieving schools in math. Thus, the observed difference in the MI satisfaction ratings of high and low-achieving schools proved not to be statistically significant.

3. Recommendations

With reference to the aligned curriculum, the pattern of math recommendation ratios was the same as that obtained for reading. The most recommendations were generated for materials/instruction (.37), while assessment produced the least (.11). (See Table 5)

Specific recommendations for each variable are presented in Tables 9, 11, 12 and 13.

TABLE 10

Satisfaction Ratios

Math Program

Achievement Level	Variable			
	Expected Outcomes	Materials/ Instruction	Assessment	Quality of Instructional Time
High N=22	.73	.71	.71	.66
Low N=23	.71	.66	.71	.65
Total N=45	.72	.69	.71	.65

TABLE 11

Math Recommendations: Expected Outcomes*

1. Communication With Parents

   A. Inform about program objectives
   B. Establish greater cooperation between families and schools.

2. Coordination of Instruction

   A. Hire math specialist to help coordinate instruction.
   B. Conduct workshops to explain and describe coordination between math specialist and classroom teachers.

3. Programmatic Issues

   A. Provide reinforcement activities for math skills.
   B. Develop methods of motivating students to achieve.
   C. Maintain/incorporate specific programs:

      1. NIMS
      2. Chisanbop

4. Miscellanous

   A. More supervision of classroom teachers.
   B. Additional manipulative materials for lower grades.

*Based on recommendations from nineteen (19) schools

TABLE 12

Math Recommendations: Materials/Instruction*

1. Personnel

   A. Hire more compensatory math teachers.
   B. Reduce student/teacher ratio by decreasing class size.
   C. Utilize existing staff expertise more effectively.

2. Coordination of Instruction

   A. Regularly provide time for teachers to meet to coordinate plans and discuss student progress.
   B. Reschedule so that:
      1) Pull-out students do not miss other valuable instruction e.g. schedule all pull-out programs at one time.
      2) Avoid multiple interruptions in class time.
   C. Assign classroom teacher primary responsibility for coordinating developmental and compensatory instruction.

3. Materials

   A. More diversified materials needed.
   B. Need more copies of all curriculum guides.
   C. Additional instructional material at each grade level.

4. Programmatic Issues:

   A. Staff development for integrating math with other areas of the curriculum.
   B. Improve Bilingual programs' responsiveness to compensatory math needs of limited English proficiency students.
   C. Expand developmental and compensatory education to schools which need but do not yet receive such services.
   D. Continue existing programs (e.g. NIMS)
   E. Continue Chisanbop
   F. Expand compensatory math programs to include computer activities
   G. Utilize information from NIMS to guide instruction.

5. Research

   A. Determine how to integrate math into other subjects.
   B. Study the effects of pull-out instruction on time-on-task.
   C. Study the effects of pull-out instruction on disruption of regular programs.

*Based on recommendations from twenty-nine (29) schools

TABLE 13

Math Recommendations: Assessment*

1. Diagnostic Program

   A. Establish program for diagnosing student needs.
   B. Implement diagnostic program.
   C. Diagnostic program should include direct input from teachers.

2. Instructional Planning

   A. Use results of teacher-made tests.
   B. Use results of district's standardized tests (Minimum Basic Skills (MBS) and Metropolitan Achievement Test (MAT)).
   C. Continue to implement existing procedures.
   D. Establish new procedures for using test results to guide instruction.

3. Measurement Instruments

   A. Use teacher-made tests to assess reading.
   B. Develop and validate test for limited English proficiency students.

*Based on recommendations from six (6) schools

DISCUSSION

Results of the Local Basic Skills Program Review lead to the conclusion that the instructional variables examined in this report, i.e. expected outcomes, materials/instruction, assessment and instructional time, are operating satisfactorily in both the reading and math skills programs. Satisfaction with these aspects of the basic skills program in elementary schools in the Newark school district may reflect a genuine improvement in the basic skills program over the last two years. Recent reports on the Minimum Basic Skills Testing Program (Gawenus, Office of Testing 1980, 1981) demonstrate substantial improvements in communication and computation skills of elementary school students. To the extent that parents, teachers and administrators are genuinely satisfied with these features of the reading and math programs, the attitude of satisfaction should feed back into the basic skills program and facilitate further improvement in students' achievement. The literature is replete with studies (e.g. Rosenthal) which document the mediating effect of attitudes and expectations upon achievement.

In general, review teams' perceptions of the basic skills program were not consistent with achievement. Highly satisfactory ratings of the basic skills program were obtained in both low and high-achieving schools. This discrepancy occurred in both reading and math programs, although there was a higher degree of match between perception (satisfaction ratings) and reality (MBS test results) in reading than in math.

There are at least five possible explanations for the mismatch between review teams' perceptions of these aspects of the basic skills program and achievement. First, a social desirability set may have been operating in the minds of review team members and/or the people they interviewed. Such an attitude would lead to suppressing or masking un-

flattering information and attitudes, thereby conveying a false or exaggerated positive image of the program. Second, it may be difficult to recognize existing problems in the basic skills program. Third, the review team consensus rating procedure may have been ineffective. Fourth, the selected variables may not have been measured adequately. Finally, the variables selected as defined in this study may be irrelevant to achievement.

If the mismatch is a result of social desirability leading to more positive ratings than appropriate, then the validity of the study is undermined. Caution therefore should be exercised in interpreting the results and drawing conclusions. For future local reviews of the basic skills program, this potential influence should be kept in mind when developing materials and review procedures.

If the mismatch is a genuine reflection of a discrepancy between satisfaction with the program and program effectiveness (as measured by MBS achievement data), then a school and community re-education process may be needed to realign perception with reality. Essentially, this would mean training school staff and the community to think more critically so they can detect problems which exist in the reading and math programs.

Although the absolute meaning of the satisfaction ratings is somewhat suspect, their relative importance should not be underestimated. That is, despite the possibility that the basic skills program as a whole was rated as more satisfactory than it may be, the ratings of the specific variables in relation to each other should still be valid.

Of the four variables examined in this study, instructional time appears to be the least satisfactory in reference to both reading and math programs. Instructional time was investigated as a separate component and

then compared with dimensions of the reading and math aligned curricula. Therefore, the lower scores could reflect more stringent criteria imposed by instructional time review teams. However, the data suggest that individual schools and the Newark district as a whole should consider investigating the allocation and use of instructional time. The following are recommendations for the method and content of such an investigation. The method entails six distinct stages:

1. Identify which aspects of instructional time are unsatisfactory.
2. Describe what is being done and what should be done.
3. Explain why instructional time is allocated and used in relatively unsatisfactory ways.
4. Plan for changes to improve the allocation and utilization of instructional time.
5. Implement plans.
6. Follow-up on program improvement plan implementation to determine whether satisfaction ratings and achievement improve correspondingly.

In terms of content, the investigation should include analyses of:

1. The availability and use of aides/volunteers.
2. The extent of small group/individual instruction.
3. The nature and amount of classroom disruptions.
4. Student alertness during and active participation in instructional activities.
5. The effective use of instructional time and activities for limited English proficiency students.
6. The impact of negative external factors (e.g. drugs, nutrition, mobility, suspension) on achievement.

As reported in the results, perception of reading assessment was the only variable which successfully differentiated between high and low-achieving schools. It is therefore recommended that low-achieving schools adopt the policies and procedures which characterize reading

assessment in high-achieving schools. These policies and procedures include:

1. An early childhood program to screen students for potential learning disabilities.

2. Analysis of test results of all students to determine skill mastery level as evidenced by:

   A. Minimum Basic Skills Test

   B. Metropolitan Achievement Test

   C. Teacher-made tests

3. Use of results of reading assessment to guide instruction.

4. Classroom teacher involvement in identifying students in need of compensatory reading services.

5. Individual student plans for each student who fails to meet the state standard in reading. These plans should be:

   A. Assigned as a staff member's responsibility

   B. Written for each eligible student

   C. Based on formal diagnostic data

On a more general level, the Newark school district should examine assessment procedures and the use of test results in high-achieving schools and determine how low-achieving schools can improve their reading assessment programs' diagnostic and prescriptive functions. Examination should follow the investigation method outlined for instructional time. One area which should be examined is the relationship between testing and learning. The integration of learning and testing, as discussed by Krumboltz (1981), may explain why the assessment variable differentiated between high and low-achieving schools. According to this argument, at high-achieving schools teachers would facilitate reading achievement by providing students with feedback from test results, thereby using tests as learning tools rather than merely assessment instruments. In contrast, at low-achieving schools, such an integration of learning and testing would occur to a significantly lesser extent.

As mentioned in the review of the literature, (appendix) in educational research and theory scant attention is paid to assessment. While influential theorists such as Piaget and Gagné recognize and discuss the importance of feedback in guiding instruction, the use of assessment devices for instructional planning is relatively neglected by educators. Perhaps the finding that satisfaction with assessment successfully differentiated high from low-achieving schools is in some way related to the neglect of this variable by many educators. The weakness of this variable in low-achieving schools may mirror the weakness in the treatment of assessment throughout the educational system, including the preparation of teachers for classroom instruction. Conceivably, recognition of assessment as an empirical predictor of achievement could induce teacher educators to integrate this subject more fully into the college curriculum and other researchers to devote more attention to it in their studies.

Satisfaction with assessment, in this study, should be considered within the context of the aligned curriculum. The aligned curriculum is a system of basic skills instruction. System components operate interdependently. What happens in one part of a system reverberates throughout the entire system. Thus, the fact that assessment emerged as the critical link in the aligned curriculum, has implications for the other components of the curriculum and for the basic skills instructional system as a whole. Expected outcomes, materials/instruction, and the record-keeping system at high and low-achieving schools may be differentially affected by assessment. The effective operation of the entire system of basic skills instruction at low-achieving schools can be undermined by a weak assessment component. However, it must be kept in mind that what was measured in this study was satisfaction with assessment (and the other variables) rather than assessment

per se. For purposes of program improvement, it would be important to determine whether, and the extent to which, perception corresponds with reality. In other words, are assessment procedures really better at high-achieving schools or are they just perceived to be better? The answer to this question would provide the framework for implementing plans for program improvement.

Conclusions and Recommendations

Recommendations produced by review teams lead to the following conclusions:

1. Not all students who need remedial work in reading are receiving such instruction. Apparently this is a function of at least two reasons: personnel shortages and inadequate diagnostic procedures.

2. Students targeted for compensatory reading do not have enough instructional time devoted to it.

3. Teachers using the Newark Instructional Management System (NIMS) appear to be satisfied with the system.

4. Coordination between developmental and compensatory instructional programs is inadequate.

5. Communication with parents about the basic skills instructional program needs to be improved.

6. There are shortages of specific types of instructional materials.

7. Instructional staff has limited knowledge and understanding of how to use test results:

    a) To guide instruction in general
    b) To develop specific individual student plans

In conclusion, while the local review process met its objective of determining relative satisfaction with the variables examined, it was less successful in relating these variables to achievement. Two of the four variables emerged as potential targets for further study and program improvement. These variables are satisfaction with reading assessment, which differentiated between high and low-achieving schools; and satisfaction

with instructional time, which was relatively low in both high and low-achieving schools. The following are broad, general recommendations derived from the local review:

1. Conduct area meetings for principals, and staff development workshops on reading assessment procedures at high-achieving schools in reading, and provide a model for low-achieving schools to adopt.
2. Determine the extent to which basic skills are assessed by norm-referenced tests, (which examine students' abilities in relationship to other students) as opposed to criterion-referenced tests (which assess specific abilities of individual students).
3. Conduct area meetings for principals and hold staff development workshops to discuss and plan for improved allocation and use of instructional time.
4. Establish intra-district task forces to provide a forum for dialogue concerning issues of mutual interest.
5. Follow up on the remedial plans developed through the local review process. Followup should include:
   a) Monitoring plan implementation
   b) evaluating plan effectiveness
   c) re-evaluating need for remedial plans
6. Annually conduct a local review of the basic skills program so each school regularly participates in a systematic process of self-examination.

7. Central Office should provide funds to hire substitutes to cover for teachers participating in the local review.
8. Administrators, teachers and parents should meet to discuss the reasons for possible social desirability sets affecting results of the local review and how to overcome/minimize such effects in the future.
9. Evaluate the effectiveness of the local review process and determine how to improve it.

APPENDIX

Literature Review and Description of Variables

Since the mid 1960's, considerable research has been directed towards identifying variables which have a significant impact on school achievement. Coleman (1966) argued that family background variables account for so much of the variation in achievement that school factors make little difference. Hushak (1977) and others have found that "schools do make a significant contribution to achievement."

Aligned Curriculum

During the 1970's, one of the most popular topics concerning school achievement was the development of basic skills. In fact, that decade will probably be remembered by educators for its "back to basics" ethos.

Research conducted on basic skills instruction has led to a consistent pattern of results supporting the aligned curriculum; that is, a curriculum with interrelated components including: expected outcomes, materials/ instruction, assessment and record-keeping. In a comprehensive review of research on basic skills, the New Jersey State Department of Education (1980) reported,

> "Many programs incorporated these elements. Some of the most common labels include: aligned curriculum, right-to-read, diagnostic/ prescriptive, mastery learning, structured and continuous progress. There are hundreds of specific programs with these characteristics which research has shown to be effective. The major characteristic of these programs is the concept of taking the individual student through a sequenced set of learning outcomes at a rate consistent with his/her ability. The assumption is made that the student learns a higher level skill following mastery of a lower skill. This approach differs from grade level oriented programs which focus on

the skills expected to be learned by the average student in a grade level."

This approach to instruction is derived from Gagné's (1970) hierarchical model of learning. Gagné's work provides the theoretical underpinnings for much instruction in basic skills. According to Gagné (1977), an educational program which is largely characterized by discrete task analyses and a step-wise sequential approach to mastery would be more likely to result in achievement than one that to a great extent does not follow that approach. In the aligned curriculum, instructional management requires coordinating and interrelating expected outcomes, materials/instruction, assessment and record-keeping. These four facets of instructional planning are designed to ensure that basic skills are mastered sequentially, from simple to complex, as a student's mastery of a lower order skill paves the way for the acquisition and development of the next higher level skill. As a function of their centrality to basic skills instruction in today's schools, three of the four aligned curriculum components were selected as variables in the present study. Although considered to be critical components of successful basic skills programs, little if anything is known about educators' relative satisfaction with expected outcomes, materials/instruction, and assessment or about how perception of these variables in basic skills programs can be used to predict achievement.

Expected Outcomes

In the literature, "expected outcomes" is defined by having a sequenced skills array which precisely defines instruction in basic skills across grade levels. (New Jersey State Department of Education 1980). Expected outcomes thus implies the existence of a formal plan for instruction. An official instructional plan can be beneficial for a number of reasons. It can:

1. Specify priorities.
2. Describe and prescribe the appropriate sequence.
3. Facilitate consistency and continuity across teachers and grade levels.
4. Guide the construction of specific learning objectives.
5. Provide clear and sound criteria for the purchase, selection and use of instructional materials.
6. Clarify instructional objectives and guide the use of instructional techniques by providing a framework for more broadly viewing the instruction of what on the surface may appear to be isolated skills.

Expected outcomes should not be confused with what Gagné (1977) refers to as "learning outcomes." The former reflects the "management function" of the school whereas the latter refers to "instructional functions" (Doherty & Peters 1981). Thus the result of an expected outcome would be the effective and/or efficient functioning of an educational program. In contrast, the product of a learning outcome would be the successful performance on a learning task, which would reflect the attainment of a specific instructional objective.

In this study "expected outcomes" is defined by the existence of an official plan concerning the school's basic skills policies and procedures. This plan would include among other things, a sequenced skills array, which is matched to classroom materials and procedures; written policies for coordinating developmental and compensatory instructional services; and

a plan for communicating program objectives to parents, students and staff.

Materials/Instruction

Perrow (1961) observed that the "official" goals of an organization are not always consistent with the goals which are actually "operative" within the organization. Azumi and Madhere (1981) note that this discrepancy may apply to schools. Thus the formal basic skills plan defined by a school's expected outcomes may not be implemented in the classroom. The materials/instruction component of the aligned curriculum involves matching the official skills array with materials and instructional techniques actually used in the classroom. (New Jersey State Department of Education, 1980). In the present study, the materials/instruction variable is defined more broadly to encompass in addition, other aspects of instructional management including actual coordination between developmental and compensatory services and the classroom teacher's role in that process, avoiding the negative effects of "pull-out" instruction, and the utilization of specific individual student instructional plans.

In his review of research on the relationship between classroom instruction and student achievement, Rosenshine (1977) reports "classes with poor management usually have low academic engaged time." Therefore, if maximizing the amount of student engaged time is a school priority (which ample research evidence supports), then it becomes important to actually implement classroom management practices which make efficient use of instructional time.

Compensatory educational services, whether "pull-out" or in-class, require effective classroom management. The argument for pull-out remediation is that the educational needs of low-achieving students can be met more effectively when a separate compensatory program is provided. When

teachers have a wide range of achievement levels in the classroom, it is difficult to focus on the special needs of low-achieving students. Pull-out programs, it is arqued, provide a better opportunity for matching instruction and materials to individual student needs (National Institute of Education, 1976).

Opponents of "pull-out" instruction caution about the possible deleterious effects including negative labeling of students, which can result in lowered teacher expectations and in turn negatively impact on student achievement (Glass & Smith 1977, New Jersey State Department of Education 1980). Other problems associated with the "pull-out" method include students missing regular classroom instruction (National Institute of Education 1977) and lack of coordination between developmental and compensatory instructors which can result in decreased student time-on-task (New Jersey State Department of Education 1980). The issue of "pull-out" instruction is especially important because the majority of compensatory reading and math students nationwide receive this form of remedial service. A survey conducted by NIE shows that 85.3% of students in compensatory reading receive their instruction through the "pull-out" method and 72.6% of compensatory math students receive "pull-out" instruction (National Institute of Education 1976).

The concern with classroom management is echoed throughout the literature. Brophy and Evertson (1976) note, "Effective teaching is not simply a matter of implementing a small number of basic teaching skills. Instead, effective teaching requires the ability to implement a very large number of diagnostic, managerial and therapeutic skills." Brinson (1980) recognizes that the classroom teacher is the focal point of the district's organizational structure, and curriculum design and implementation.

Finally, Wargo's (1972) review of exemplary educational programs supports this study's concern with individualized student plans. Such plans should target specific academic objectives and ways of achieving them, and include a system for informing and thereby involving parents in the progress of their children.

Assessment

The New Jersey State Department of Education (1980) characterizes the assessment component of the aligned curriculum for reading and math in three ways. First, each skill should have criterion-referenced assessment procedures. Second, evaluation should be timely and adequate for distinguishing between skills mastered and those yet to be learned. Lastly, the results of assessment should be used to guide instruction.

It is noteworthy that the New Jersey State Department of Education's (1980) literature review cites no studies and makes virtually no other comments about basic skills assessment procedures. The only exception to this information gap is the indication that the aligned curriculum approach requires frequent assessment of students' progress in order to help ensure that students taught in groups are grouped on the basis of current needs.

From the present survey of research and theory pertaining to basic skills instruction, it is clear that the information gap in the New Jersey paper is to a great extent a reflection of the scant attention devoted to assessment in the literature.

Bennett's (1978) analysis of school learning models provides a suggestion as to part of the reason for the relative neglect of assessment. He points out that many popular models of school learning, notably Carroll (1963), and Harnischfeger and Wiley (1975) do not include feedback as a distinct component. Bennett's model was derived from Harnischfeger & Wiley (which was influenced by Carroll (1963), and it includes feedback as a basic

component of school learning. Bennett states, "Feedback is a two-way process...Assessment of pupils not only indicates degree of mastery, and conversely, areas where mastery has not been achieved, it also indicates to the teacher the degree to which he or she is meeting aims and objectives." McKeachie (1976) found that to maximize learning, not only should the student be provided with feedback, but also, should be given an explanation of how to make the necessary corrections.

Bennett notes that teachers are often much more familiar with feedback than they are with assessment.* He reports "indeed, many teachers at the primary level dismiss formal and recorded assessment despite the recent Green Paper's (1977) stress on the necessity of systematic and understandable record-keeping systems. The observation of Alderson and Hird (1973) is not atypical: "All teachers place greater stress on individual unrecorded assessment. Having the opportunity to get to know a child over a fairly long period made formal recording of progress unnecessary." (Bennett 1987).

In his discussion of assessment, Bennett points out it is often assumed that teachers have the knowledge and skills required to design and implement criterion-referenced measures, however most teachers do not learn that in college. He suggests that teachers' neglect of assessment in the classroom may be at least partially a function of their inadequate knowledge and expertise. Bennett cites Sharp and Green's (1975) study in which they point out that if there is no set curriculum, then there is nothing against which to assess student progress.

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*Here we need to differentiate between assessment and feedback. Assessment refers to the process of conducting an evaluation, whereas feedback refers to the process of utilizing the results of an evaluation.

In a survey of compensatory educational programs NIE (1976) reports, "with respect to the use of diagnostic and prescriptive activities while a number of teachers report the use of individualized skill inventories for initial placement, many more report using standardized achievement test scores which reflect a student's performance in relation to others as opposed to measuring individual abilities. In addition, in assessing progress during the school year, most do not use the tests which are most appropriate for individualized instruction i.e. criterion or objective referenced tests."

Both Sharp and Green's study and the NIE report address the logic underlying the aligned curriculum, i.e. using an official skills array for individualizing diagnosis of skill mastery level, prescribing instructional activities, and evaluating student progress.

In the present study, the assessment variable includes using tests to identify students needing compensatory services and those who have learning disabilities. Additionally, assessment in the basic skills program entails using test results: a) to determine skill mastery level, b) to guide instruction and c) to formulate individual student plans for students below the state standard. Assessment thus plays a role in basic skill diagnosis and prescription as tests are used to identify student needs and plan instruction.

To summarize, instructional management is considered to be a crucial factor affecting student achievement. It is a multi-dimensional concept which encompasses aspects of educational planning from the conceptualization of educational outcomes and assignment of responsibility, to implementation and evaluation. The New Jersey State Department of Education (1980) notes that part of instructional management involves providing a basic skills program with

with an aligned curriculum comprised of the interrelated elements of expected outcomes, materials/instruction, assessment and a record-keeping system. Newark's local review of the basic skills program involves the examination of these aspects of instructional management in reading and mathematics programs. This report focuses on three components of the aligned curriculum and instructional time.

Instructional Time

Instructional time is one of the most frequently discussed topics in educational literature. Carroll's (1963) model of school learning was one of the early statements about the importance of this variable as a determinant of achievement. Since then, numerous studies have documented the relationship between various aspects of time and achievement.

There appears to be a positive relationship between the quantity of instructional time and school achievement. The National Institute of Education (1976) found that increased time is associated with increased achievement. Brookover (1979) reported that high-achieving schools were characterized by having more classroom instructional time than low-achieving schools. Fisher et. al. (1977) found qualified support for the hypothesis that more time results in more learning (Bennett 1978).

However, one needs to consider the quality of instructional time in addition to the quantity. Stallings and Kaskowitz (1974) cautioned that time allocated for instruction cannot automatically be equated with time engaged in academic activities. Bennett (1978) cites Black and Burns' (1976) review of research on mastery learning which concluded that it is both the quantity of time, i.e. time allocated, and the quality of time, namely time-on-task, that affect achievement.

Recent theory and research on instructional time have focused primarily on the use of time and factors which affect the quality of instructional time. Active-learning time, student-engaged time, academic-engaged time, and time-on-task are all phrases used to convey an instructional situation in which the student is alert and actively engaged in instructional activities. Harnischfeger and Wiley's (1975) model of school learning emphasizes total "active learning time" as the primary determinant of achievement.

The models of Cooley and Leinhardt (1975) and Cooley and Lohnes (1976) similarly link time and learning. One of the variables affecting the quality of instructional time is the degree to which students are alert and attending to instructional activities. Student attention consistently has emerged as a strong correlate of achievement (Bloom 1976, Brophy 1974). Grouping practices, such as small-group instruction, a small pupil-teacher ratio, and individual instruction also have been demonstrated to be practices which affect the quality of instructional time and correlate significantly with achievement (Rosehshine 1977, Bidwell and Kasarda 1975, NIE 1976, Brophy 1974, Azumi 1979).

Both quantitative and qualitative aspects of instructional time are examined in this study. In addition to the recognition of time as an important factor in school learning and a correlate of achievement, instructional time was selected as a variable in the present study for two other reasons. First, because of its relationship to the other variables included in this report. An aligned curriculum (indeed any curriculum) can only be effective to the extent that time allocation and use are adequate. It could be valuable to learn the relative satisfaction with instructional time when compared to constituent parts of the aligned curriculum. Second, because time is one of the few resources which can be directly manipulated by the teacher (Karweit and Slavin 1981), recommendations concerning improving the

allocation and use of time have the potential of actually being implemented.

In conclusion, expected outcomes, materials/instruction, assessment and instructional time were selected as variables in the present study primarily because although each has been recognized as an important component of successful educational programs, little, if anything is known about the perception of the relative degree of satisfaction with these factors and how they differentially contribute to reading and math achievement. The present study is intended to determine the amount of variance in achievement accounted for by satisfaction with these aspects of the basic skills program. Recommendations and remedial plans for improving the basic skills programs in individual schools and in the district as a whole are also products of the local review. If implemented, such plans may result in substantial program improvement including modifying the curriculum to increase student achievement in reading and math, and facilitating the effective utilization of classroom time.

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